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REMARKS

This Amendment is responsive to the Office Action identified above, and in any other manner indicated below.

REPLACEMENT ABSTRACT - NOT EXCEEDING 150 WORDS

The replacement abstract provided herewith complies with the 37 CFR §1.72(b) requirement that the Abstract not exceed 150 words. In the event that the present replacement Abstract is itself found not to be of proper form, the Examiner is herein authorized to amend to a suitable replacement Abstract. With respect to any past, present or any ultimately implemented Abstract or amendment thereof, Applicant would like to reiterate and embrace the 37 CFR §1.72(b) provisions that "The abstract will not be used for interpreting the scope of the claims."

CLAIM OBJECTIONS OBIATED VIA CLAIM AMENDMENT

Claims 1-7 and 12 have been objected to because of the Office Action concerns listed within the section numbered "3" on page 2 of the Office Action. As amendments have been made where appropriate in order to address each of the Office Action listed concerns, reconsideration and withdrawal of the claim objections are respectfully requested.

PENDING CLAIMS

Claims 1-12 were pending, under consideration and subject to examination in the Office Action. Appropriate claims have been amended, deleted and/or added

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(without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is present interested. At entry of this paper, Claims 1-12 remain pending in the application for further consideration and examination in the application.

ALLOWED CLAIMS

Claims 8-11 have been allowed in the application, as indicated within the section number "8" on page 4 of the Office Action, and Claim 12 has been indicated as being allowed if amended to overcome formalities, as indicated within the section number "10" on page 5 of the Action. At least appropriate ones of the claims have been minorly amended in such a way as to not affect the patentability thereof, and therefore, renewal of the allowance are respectfully requested. Applicant and the undersigned respectfully thank the Examiner for such indication of allowable subject matter.

NON-REWRITTEN ALLOWABLE CLAIMS

Although Claim 4 has been indicated as being allowable if rewritten, as stated within the section number "9" on page 4 of the Office Action, rewriting has not yet been effected as it is believed that any base and intervening claims will be allowed responsive to this paper.

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Applicant respectfully reserves the right to rewrite the potentially allowable claims at a later time, if necessary, and Applicant and the undersigned respectfully thank the Examiner for such indication of potentially allowable subject matter.

REJECTION UNDER 35 USC §103

The 35 USC §103 rejection of Claims 1-3 and 5-7 as being unpatentable over Shinji et al. JP 8-32046 is respectfully traversed. All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

In order to properly support a §103 obviousness-type rejection, the reference not only must suggest the claimed features, but also must contain the motivation for modifying the art to arrive at an approximation of the claimed features. However, the cited art and Office Action comments do not adequately support a §103 obviousness-type rejection for the following reasons.

More particularly, the Office Action has admitted that Shinji *et al.* does not specify input/output lines in L-shaped or C-shaped form, and yet, in its next breath, the Office Action concludes that L-shaped or C-shaped lines would have been "a matter or design choice" or a "mere reversal of the essential working parts of a device involves only routine skill in the art". In traversal, it is respectfully submitted that Shinji et al. itself has provided no suggestion to modify away from its

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present straight input/output lines, and certainly has provided no suggestion to select L-shaped or C-shaped lines out of the thousands (if not millions) of possible line shapes/configurations. It is respectfully submitted that the only suggestion here would be the use of the knowledge of Applicant's claims in an improper hindsight attempt to meet the claims.

The USPTO Board has held numerous times that a rejection is not sufficiently supported by a conclusionary "design choice" or "routine skill" allegation. Examples include *Ex parte Palermo*, Appeal No. 96-2562, *Ex parte Yamazaki*, Appeal No. 96-1467, *Ex parte Kim*, Appeal No. 1998-2497 and *Ex parte Yu*, Appeal No. 98-1947. The present Office Action comments attempt to allege that L-shaped or C-shaped lines are obvious from straight lines. Of particular interest is the Board opinion in *Ex parte Yu*, in which the Board stated that the Examiner's rejection alleging that a "Z-shaped aperature" (in a heat exchanger invention) would have been an obvious "design choice" over an "elliptical aperature" was improper, and the Board reversed.

In addition to the above, the following are traversal comments from Applicant's foreign representative in support of the patentability of Applicant's invention.

One main feature of the present invention of Claim 1 consists in that the optical signal input units are placed in L-shaped form or C-shaped form (Claim 1, lines 7-8) and that the optical signal output unit are placed in inverted L-shaped form or C-shaped form (Claim 1, lines 6-4 from the bottom).

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Thus, a high-capacity and small-sized wavelength division multiplexed optical interconnection device can be implemented which efficiently utilizes a main surface of a semiconductor substrate with an electric signal processing integrated circuit being integrated thereon, and lessens trouble about a signal delay developed between input and output units (see page 7, lines 16-22 of the specification). Also, a wiring length can be reduced and a physical signal band for each connecting wiring can be enlarged (page 30, line 2 from the bottom to page 31, line 1 of the specification).

On the other hand, Shinji *et al.* (JP 08-032046) fails to show an important feature of the invention as discussed above (see Figs. 3 and 2 of Shinji *et al.*), and in contrast, shows all of a receiver and a laser device arranged, respectively, in a straight line.

In the case of arranging the same number of channels as the present invention simply in a straight line on one chip in the same manner as Shinji *et al.*, the length of the peripheral edge portion of the chip is double to what is used in the present invention, because in such a case, the receivers are arranged in a straight line on one peripheral edge portion of the chip and the lasers also in a straight line on an opposite peripheral edge portion. On the contrary, the present invention efficiently utilizes a main surface of a semiconductor substrate.

Moreover, length of a channel from a receiver or laser set near a peripheral edge to a semiconductor signal processing circuit unit becomes longer, because the length of the peripheral edge portion of the chip is double and the size itself of the

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semiconductor signal processing circuit unit set near the center of the chip is kept constant.

On the other hand, in the case of the present invention, a wiring length can be become shorter than that of the above-discussed comparative model, because by setting the input units and output units in L-shaped form or C-shaped form on the peripheral edge portions of the chip, the lengths can be constant between the semiconductor signal processing circuit unit set near the center of the chip and each of the input units and output units.

Upon comparing one chip of the present invention with one chip of above-discussed comparative model in the same size, the present invention is able to have double of the channel numbers, i.e., in the present invention, a wiring length can be reduced and a physical signal band for each connecting wiring can be enlarged (see page 5, line 16 to page 6, line 7 of the specification. Therefore, the present invention is patentable over the cited references because the problems to be solved by the present invention were first found by this inventor, and the cited references fail to show or suggest the main features of the present invention and the effects of the present invention.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a §103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such §103 rejection, and express written allowance of all of the §103 rejected claims, are respectfully requested. Further, at this point, it is respectfully

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submitted as a reminder that, if new art is now cited against any of Applicant's unamended claims, then it would not be proper to make a next Action final.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer of any scope or subject matter. Further, Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, *i.e.*, Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

EXAMINER INVITED TO TELEPHONE

The Examiner is invited to telephone the undersigned at the local D.C. area number of 703-312-6600, to discuss an Examiner's Amendment or other suggested action for accelerating prosecution and moving the present application to allowance.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims presently under consideration are now in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

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This Amendment is being submitted within the shortened statutory period for response set by the 20 May 2004 Office Action, and therefore, no Petition or extension fee is required for entry and consideration of this paper. To whatever other extent is actually necessary and appropriate, Applicant petitions for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper to Deposit Account No. 01-2135 (as Case No. 500.40379X00)

Respectfully submitted,



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